

Application No. 10/589,587  
Amdt. dated 24 February 2010  
Reply to Office Action of 27 November 2009

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (cancel)
2. (Currently Amended) A method for manufacturing a single crystal semiconductor, in which a seed crystal is dipped into melt in a crucible and is pulled up at a pulling-up speed corresponding to a pulling-up instruction to manufacture the single crystal semiconductor having an impurity added thereto, including the steps of:  
*determining*~~calculating~~ a deviation between a target value of a crystal diameter and a current value of the crystal diameter,  
*controlling*~~calculating~~ the amount of increase/decrease in speed from a current pulling-up speed to makeas the amount of the pulling-up instruction for making the deviation of the crystal diameter zero and, ~~while~~ setting a limit to a range of the pulling-up speed such that a pulling-up speed fluctuation in 10 seconds is less than 0.025 mm/min, and,  
outputting the pulling-up instruction to a pulling up mechanism to increase/decrease the pulling-up speed by the controlled~~calculated~~ amount of increase/decrease in speed from the current pulling-up speed, and pulling up the single crystal semiconductor.
3. (cancel)
4. (Previously presented) The method for manufacturing the single crystal semiconductor of claim 2, wherein,  
when the single crystal semiconductor is pulled up, a magnetic field of 1500 gauss

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or above is applied to the melt.

5. (Previously presented) The method for manufacturing the single crystal semiconductor of claim 2, wherein  
the impurity to be added into the single crystal semiconductor is boron B or gallium Ga, and the impurity concentration is 8.0e17 atoms/cc or more.
6. (Previously presented) The method for manufacturing the single crystal semiconductor of claim 2, wherein  
the impurity to be added into the single crystal semiconductor is phosphorus P, antimony Sb, or arsenic As, and the impurity concentration is 5.0e17 atoms/cc or more.
7. (Previously presented) The method for manufacturing the single crystal semiconductor of claim 2, wherein  
The current value of the crystal diameter is determined by the weight of the crystal.
8. (Previously presented) The method for manufacturing the single crystal semiconductor, wherein  
The current value of the crystal diameter is determined by optical method.